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| **Light Bulbs**   * I will try to use fractions throughout the entire year, instead of just in the “fraction section” of the curriculum * I will definitely be using 4-colour feedback with my students. I have a vision for how I can use it to help them do better self and peer assessment * How useful it is to collaboratively examine student work and formulate what the student understands, misunderstands, questions, and descriptive feedback * AHA!!!! Using effective descriptive feedback to empower students to independently move forward in their thinking – not moving forward in their thinking because I cued them to my thinking !!!! Take time to listen and respond!!! - Not Tell !!! * How many curriculum connections that address fraction concepts * Fractions are everywhere and there are multiple ways to develop student understanding through exploration * Connection of fraction to the gr. 9-12 curriculum, especially in Advanced Functions and Calculus and Vectors * The power of the number line ! * I love the variable number line * I really like the connection between placing values on our individual number lines and creating various functions as a group. Wow! Really neat! * The “aha moment” was when I was working on the variable number line activity. At first, I couldn’t see why each member had to plot points on a number line with specific value and using functions. However, when all 5 of us placed on the graph, our individual lines, it suddenly all came together. So, I, along with Anne, screamed simultaneously, because we were both excited to see the connection! * Common denominator division * Laminating chart paper * Thinking about part-part * Language is so important in comprehension of fraction operations * The pizza is not an all-encompassing (or even easy-to-understand or use) representation of fractions * When using decimals, refer to them as decimal fractions (1.25 is one and 24 hundredths) to reinforce the connection between decimals and fractions * Aha from plenary – comparing fractions by converting them to decimals works because you ar making them relative to the same whole, it’s not just a rule! * Fractions are not as simple as I thought. Shape Shifters ! * Recognizing the many different fraction meanings and the need to be more explicit with students about the purpose of the different representations * Different kinds of representations of fractions that I can develop now and show students, and teach to them * Placing the variables on the number line, and how this activity can be accommodated through different grades * I think that making more explicit to students HOW fractions are used in context (ie. As part-part or quotient) would help clear up confusion and misconceptions) * Adding Fractions: Plenary 1, Dr. Small’. Her explanations were great . The difference of combining and adding together. It hit me and gave an insight of how to do gap closing. * I will add accommodation for LD students into planning lessons according to the Cognitive Processes when I am teaching my pre-service teachers. They just want to give individual help and lack skill in practical accommodations and universal design. * L.D. processes and accommodations * Dividing fractions using a common denominator * Ah-ha! I finally understand what dividing fractions means! * I now have a better idea of how to use GAP CLOSING in my classroom. * Giving students time to talk is a terrific way for us to understand their thinking. * That even though kids can write or say the “right” thing, it doesn’t mean that they actually understand * Electronic portfolios! * Portfolios – Love the portfolio on attitudes towards math! Gets students to look for the “good” things that can happen in math * Portfolios, learning walls, descriptive feedback * People are still willing to reinvent their practice and modify their teaching and learning even when they are well into their teaching careers. This is extremely encouraging! | **Puzzle Pieces**   * I am still trying to figure out how to give descriptive feedback that helps move my students forward in their thinking – I need to go beyond “Good Work” * I will need to think more about making my descriptive feedback effective and ensuring that students have the opportunity to act upon it to improve their learning * Still thinking about the invert and multiply thing * Do guided math groups have a place in the secondary classroom? * How to integrate fractions review (or gap closing) throughout the topics (rather than a separate unit/topic) * Can and should I spend more time exploring the nature of fractions in my secondary classes? * How to establish a math talk learning community * How to help reluctant students to engage in Math Talk * I wonder, with so many possible misconceptions in fractions, if we should make questions which reduce the number of possible stumbling blocks or not. I am thinking of that question of placing fractions on the number line between 0 and 4. The transfer between students thinking of a fraction of an object and a fraction as a value can be difficult. * I would like to use the number line 🡪 graph activity. When I try it with students, how will I consolidate it so I can make sure they understand the implications? What will I precede the activity with? * How to move away from linear, unit-to-unit teaching, to a more integrated, embedded approach to teaching * I want to read further to understand the meaning of fractions given on the 1-pager * Still thinking of explaining the concept of fraction division as it extends to algebra, and trying to avoid “memorizing” a rule to “flip and multiply” * Why is it ‘discouraged’ to compare/relate fractions to money? * I am still wondering about fractions as part-part and part-whole. Ex. How do you explain 2/1, 3/1, compared to ½ * I’m still puzzled with representing and solving a frction question involving division, with a visual way such as a number line or area model, withoug having to refer to the rule of multiply by the reciprocal * Use of learning walls in split grades * Use all the knowledge and practices I’ve gathered to take with me to do gap closing in each grade * How to integrate gap closing resources into a course and keep the class in-step? * How to incorporate Gap Closing materials to allow students with gaps to be more successful * I wonder… how to review fractions and do it in a way where students understand without cutting /rushing the curriculum * I am happy to have reviwed why we divide fractions as we do and am still looking for the clearest ways to help my J/I teacher candidates to understand this well. We will have fun next year! * How do we explain that dividing with common denominators works better? * Now that I have a good understanding of students’ misconceptions, I am still trying to figure out how to fix these. Listening helps us see, questioning guides their thinking, but beyond that, there is much to learn to teach. * Assessment of students related to their fraction work. If we include it all year and have portfolios, how do we actually assess on the report card etc. * The use of Prezi and Evernote * Meeting the needs of a WIDE variety of learners in the intermediate classroom (M.I.D. to gifted) – Differentiation! * How can I best identify gaps in understanding of fractions in my senior students (grade 11 and 12) early, and provide timely intervention within the scope of the curriculum? * Is it ok to have or accept “semi-subjective” definintions of terms like “fraction” due to the many aspects of what it entails – or should there be “definite” definitions to avoid confusion (but this may prohibit creativity and/or true understanding?) * What possible ways are there to identify and contact people who are interested in carrying PD throughout the year as well |